LISTING OF CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application:

What is claimed is:

1. (**Currently amended**) A security element comprising:

a layer composite including a surface pattern with microscopically fine optically effective structures embedded between transparent layers of the layer composite, wherein the optically effective structures are shaped into a reflecting interface in surface portions of a security feature in a plane of the surface pattern, which plane is defined by co-ordinate axes (x; y), wherein

at least one of the surface portions having a dimension greater than 0.4 mm comprises a diffraction structure, the diffraction structure formed by additive or subtractive superimposition of a superimposition function (M) and a microscopically fine relief profile (R) that follows along the superimposition function (M), wherein

the superimposition function (M), the relief profile (R) and the diffraction structure are functions of the co-ordinate axes (x; y);

the relief profile (R) defined by a light-diffracting or light-scattering, optically effective structure which is unchanged in a region of the superimposition function (M) ; and

the superimposition function (M) defined by a macroscopic structure, wherein a central surface defined by the superimposition function (M) is curved at least in partial regions and at any point has an angle of inclination predetermined by a gradient of the superimposition function (M), wherein the superimposition function (M) is not a periodic triangular or rectangular function and wherein the superimposition function (M) varies less than the relief profile (R) at least in the partial regions.

2. (Previously presented) A security element as set forth in claim 1, wherein the superimposition function (M) in the at least one surface portion is a steady, periodic function with a spatial frequency of at most 20 lines/mm.

3. (Previously presented) A security element as set forth in claim 1, wherein the superimposition function (M) in the at least one surface portion is an asymmetrical, steady, periodic function with a spatial frequency in the range of between 2.5 lines/mm and 10 lines/mm.

4. (Previously presented) A security element as set forth in claim 1, wherein adjacent extreme values of the superimposition function (M) in the surface portion are remote from each other by at least 0.025 mm.

5. (Previously presented) A security element as set forth in claim 2, wherein the relief profile (R) is a diffraction grating of constant profile height, which has a grating vector with an azimuth angle and with a spatial frequency of greater than 300 lines/mm.

6. (Previously presented) A security element as set forth in claim 2, wherein the relief profile (R) is an anisotropic matt structure which has a preferred direction with an azimuth angle .

7. (Previously presented) A security element as set forth in claim 5, wherein the security feature has at least two adjacent surface portions and wherein a first diffraction structure is shaped in a first surface portion and a second diffraction structure which differs from the first diffraction structure is shaped in a second surface portion, wherein the grating vector or the preferred direction of a first relief profile (R) in the first surface portion and the grating vector or the preferred direction of a second relief profile (R) in the second surface portion are directed substantially parallel.

8. (Previously presented) A security element as set forth in claim 5, wherein in the diffraction structure the grating vector or the preferred direction of the relief profile (R) is

substantially parallel to a gradient plane which is determined by the gradient of the superimposition function (M) and a surface normal which is perpendicular to the surface of the layer composite .

9. (Previously presented) A security element as set forth in claim 5, wherein shaped in a first surface portion is a first diffraction structure which is formed as the sum of the relief profile (R) and the superimposition function (M) and wherein shaped in a second surface portion is a second diffraction structure which is formed as the difference (R - M) of the same relief profile (R) and the same superimposition function (M).

10. (Previously presented) A security element as set forth in claim 5, wherein in the diffraction structure the grating vector or the preferred direction of the relief profile (R) is substantially perpendicular to a gradient plane which is determined by the gradient of the superimposition function (M) and a surface normal which is perpendicular to the surface of the layer composite .

11. (Previously presented) A security element as set forth in claim 3, wherein the relief profile (R) is a diffraction grating which has a grating vector with an azimuth angle and a spatial frequency greater than 300 lines/mm, wherein the surface portion in each of a plurality of periods (1/F) of the superimposition function (M) is subdivided into a number t of partial surfaces of the width 1/(F•t), wherein F is a spatial frequency of the superimposition function (M), wherein a first diffraction grating of the diffraction structure, which is associated with the one partial surface, differs in at least one of the grating parameters from a second diffraction gratings of the adjacent partial surfaces, wherein the subdivision and the occupation of the partial surfaces with the diffraction structure is repeated in each period (1/F) of the superimposition function (M) and wherein the diffraction grating has the azimuth angle and/or the spatial frequency corresponding to an inclination in the surface portion and wherein within each period (1/F) the grating

parameters of the diffraction grating step-wise or continuously traverse a predetermined azimuth angle range or a predetermined spatial frequency range respectively.

12. (Previously presented) A security element as set forth in claim 5, wherein in a first surface portion a first diffraction structure is formed from the sum of the relief profile (R) and the superimposition function (M) and wherein in a second surface portion a second diffraction structure is formed from the first diffraction structure (S).

13. (Previously presented) A security element as set forth in claim 5, wherein the diffraction structure formed as the sum of the superimposition function (M) and the relief profile (R) is shaped in at least one surface portion, wherein the spatial frequency of the relief profile (R) is less than 2400 lines/mm and the superimposition function (M) has an inclination (γ) measured in the diffraction plane of the relief profile (R), wherein the surface portion adjoins a background field of the security feature, wherein the background field parallel to a cover layer has the central surface with the inclination $\gamma = 0^{\circ}$ into which a sinusoidal diffraction grating with a second spatial frequency and with a grating vector oriented in parallel in the diffraction plane of the relief profile (R) is shaped, wherein the second spatial frequency is so selected that upon perpendicular illumination with white light in one viewing direction at a predetermined positive viewing angle the surface portion and the background field do not differ with respect to the color of the diffracted light and wherein after a 180° rotation of the layer composite about the surface normal at the negative viewing angle the surface portion and the background field differ with respect to the color of the diffracted light.

14. (Previously presented) A security element as set forth in claim 1, wherein the relief profile (R) is an isotropic matt structure.

15. (Previously presented) A security element as set forth in claim 14, wherein the superimposition function (M) describes a relief image.

16. (Previously presented) A security element as set forth in claim 14, wherein the superimposition function (M) describes a portion of a sphere.

17. (Previously presented) A security element as set forth in claim 1, wherein the diffraction structure is restricted to a structure height of less than 40 μm and the superimposition function (M) is restricted to a variation value (H) of less than 30 μm, wherein the value of the superimposition function (M), which is used in the diffraction structure is equal to {(M) + C(x; y)} modulo variation value (H) - C(x; y), wherein the function C(x; y) is restricted in amount to half the structure height .

18. (Previously presented) A security element as set forth in claim 1, wherein surface elements having optically effective structures are parts of the surface pattern and at least one of the structure elements adjoins the security feature .

19. (Previously presented) A security element as set forth in claim 1, wherein arranged on at least one of the surface portions is at least one identification mark with another optically effective structure differing from the diffraction structure, wherein that identification mark which can be used as a reference for orientation of the layer composite comprises at least one of a diffractive relief structure, a light-scattering relief structure and a mirror surface.

20. (**New**) A security element as set forth in claim 1, wherein the additive or subtractive superimposition forms a single surface relief.